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Cont

such procedures include lysis or disruption of cells or tissues by mechanical (heat, sonication, vortex with glass beads, etc.), enzymatic (lysozyme, etc.) or chemical (pH, salt, detergent, etc.) means. Alternatively, the cells and/or tissues may be used directly in the methods of the invention without prior manipulation (such as lysis, disruption etc.). The applications of the invention are numerous, including direct cloning from genomic DNA or cDNA, *in vitro* mutagenesis and engineering of DNA, analysis of allelic sequence variations, analysis of RNA transcript structure, genetic fingerprinting of forensic samples, autopsies, biopsies, and archeological samples, assays for the presence of infectious agents, prenatal diagnosis of genetic diseases, genomic fingerprinting, and direct nucleotide sequencing of genomic DNA or cDNA, to name a few.

In the claims:

Please cancel claims 57-69.

Please substitute the following claim 8 for currently pending claim 8.

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8. (Thrice amended) A method for synthesizing a nucleic acid molecule from a preparation comprising RNA and double-stranded DNA, said method comprising:
- a) mixing the preparation with one or more DNA polymerases, and one or more peptides or polypeptides having ribonuclease activity; and
 - b) incubating said mixture under conditions sufficient to synthesize a nucleic acid molecule complementary to all or a portion of said template and sufficient to degrade single-stranded RNA
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Please substitute the following claim 56 for currently pending claim 56.

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56. (Amended) The method of claim 8, wherein said preparation is from any cell or tissue selected from the group consisting of bacteria; insect; bird; fish; plant; yeast; prokaryote; eukaryote; and mammals.

Please add new claims 70-75.

70. (New) A method according to claim 8, wherein said double-stranded DNA is in an expression vector.

71. (New) A method according to claim 8, wherein said double-stranded DNA is in a cloning vector.

72. (New) A method according to claim 8, wherein said double-stranded DNA is genomic DNA.

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73. (New) A method according to claim 8, wherein said double-stranded DNA is a plasmid or a cosmid.

74. (New) A method according to claim 8, wherein said double-stranded DNA is a viral DNA.

75. (New) A method according to claim 8, wherein said double-stranded DNA is a phage DNA.
